**Reflection on Solving Equations:**

*“How do we maintain balance?”*



**PART 1**

Nicolo earns twice as much as Saeko each week doing chores around the house. If together they make €48. How much does each person earn in a week?

(hint: **x** is the amount of money for Saeko and **2x** is the amount of money for Nicolo. ) Together they earn **3x**.

Write an equation:

Solve the equation:

What is the letter **x** used to represent in this real life situation?

Does your answer make sense to this real life situation and **why**? **How** would you check your solution(s)? Explain!

**PART 2**

Given a triangle with sides of lengths, 2x, 7, and 14 with a **Perimeter** of 42. **Find the length of the side marked 2x.**

7

2x

14

Set up an equation:

Solve for **x**:

State the value of ***x*** as **both** an improper fraction and as a decimal.

How can you show using what you know about the perimeter of an object that the answer you have found for ***x*** makes sense?

Do you think both the **fraction** and the **decimal** solutions would work when substituted into the equation? Show the **check** for both.

**PART 3**

In the Excel investigation you solved the equation:

 and discovered that technology had limitations.

**Show how** you would solve this equation using inverse operations and state your solution.

**How** would you check that your solution is **correct** and **makes sense** and maintains balance so that the LHS=RHS? Show a **check** by substituting the value for x into the equation.

Would the equation balance if you gave your answer as a decimal and rounded it or is it better to leave the answer as a fraction? Explain carefully or show with a check for both.